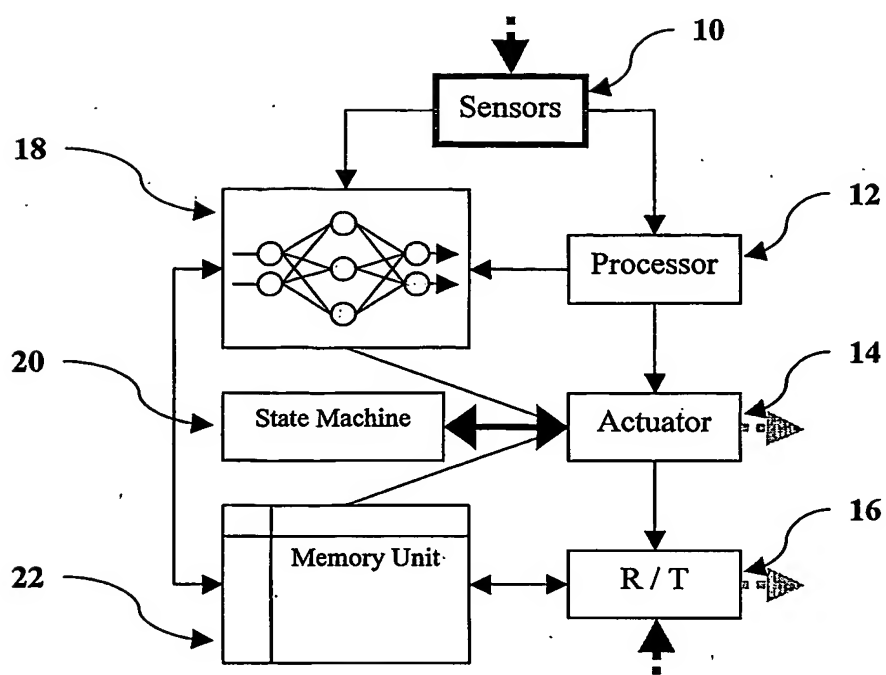
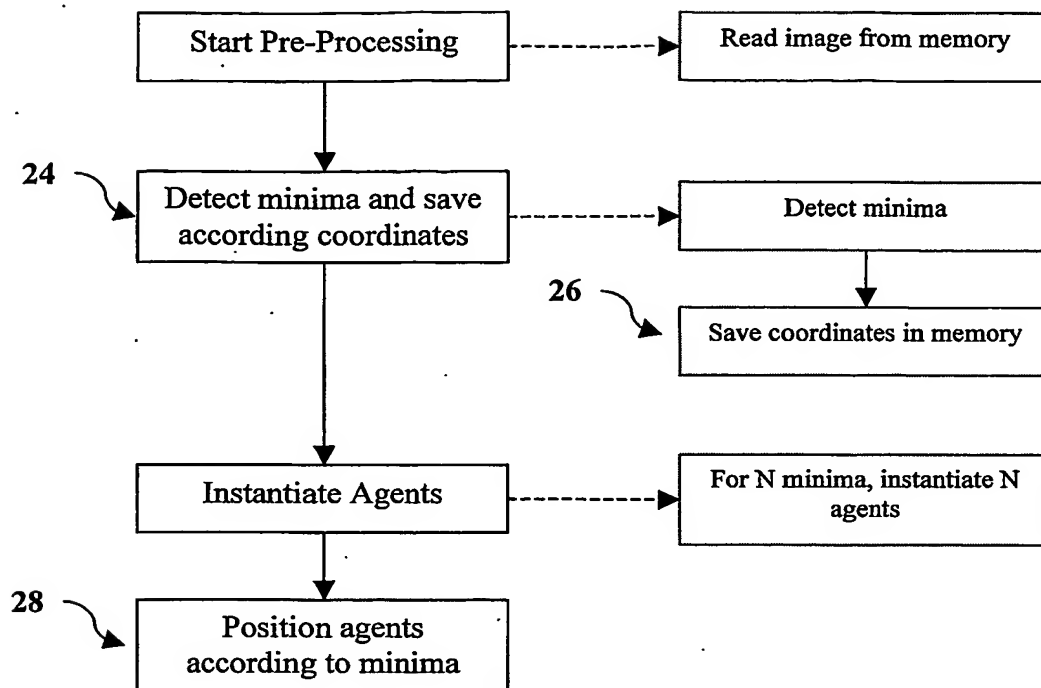


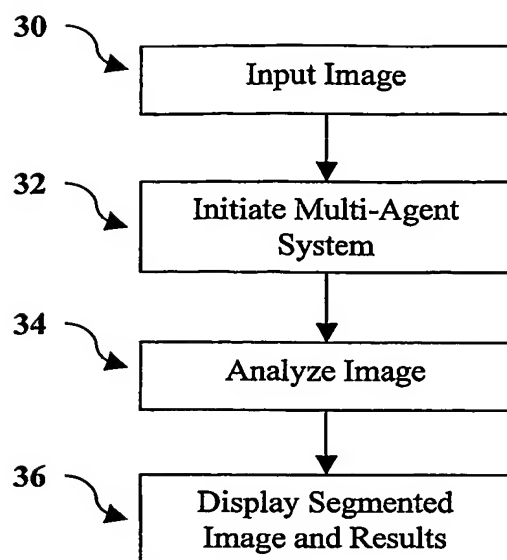
Figure 1: Agent initialization and assignment



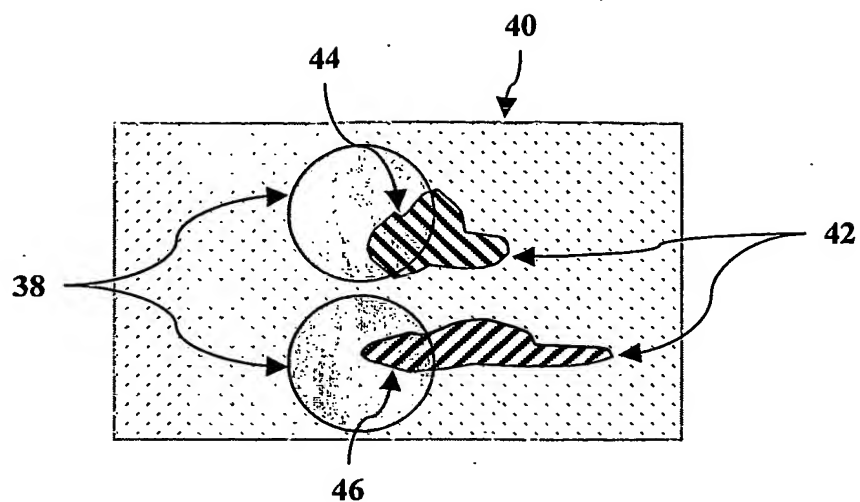
**Figure 2: Agent Components**



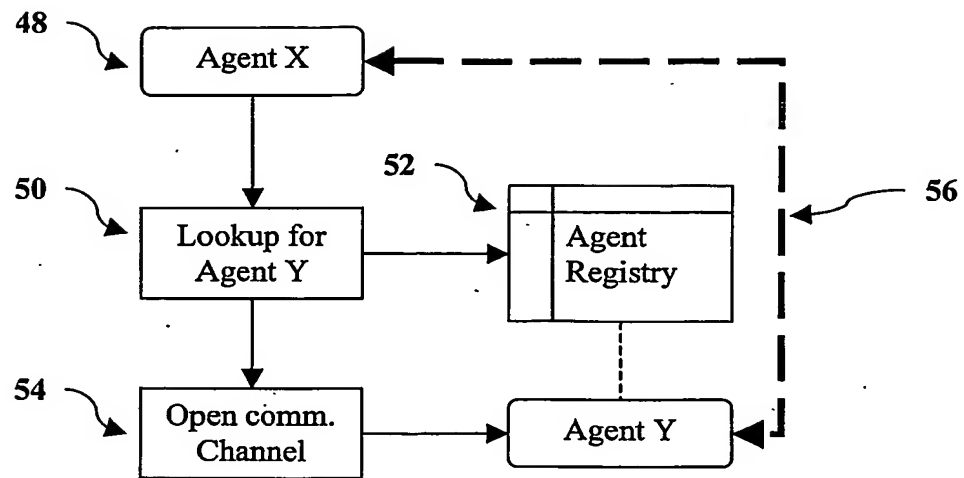
**Figure 3: Example Agent assignment**



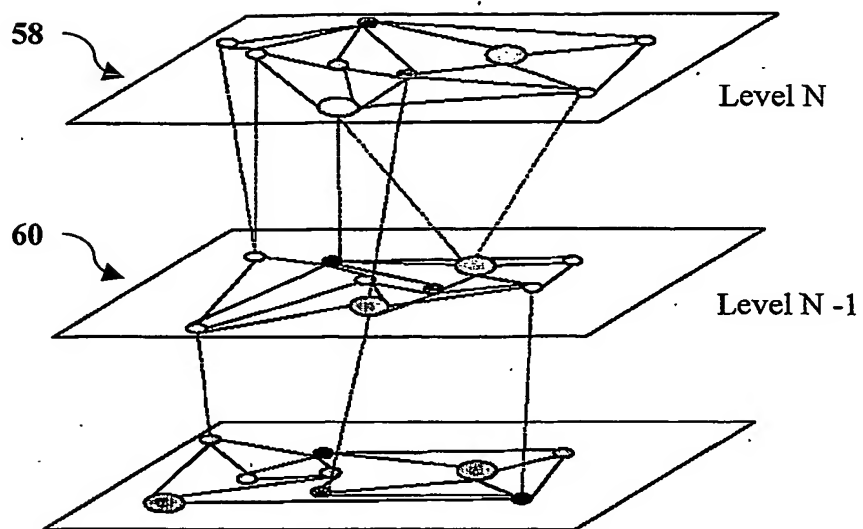
**Figure 4: Overall system operational flow**



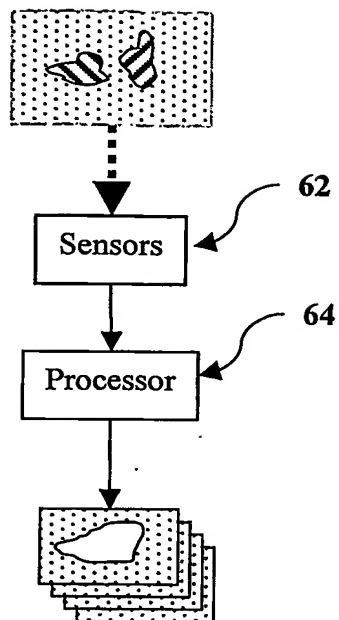
**Figure 5: Agent Sensors in portion of image**



**Figure 6: Agent communication**

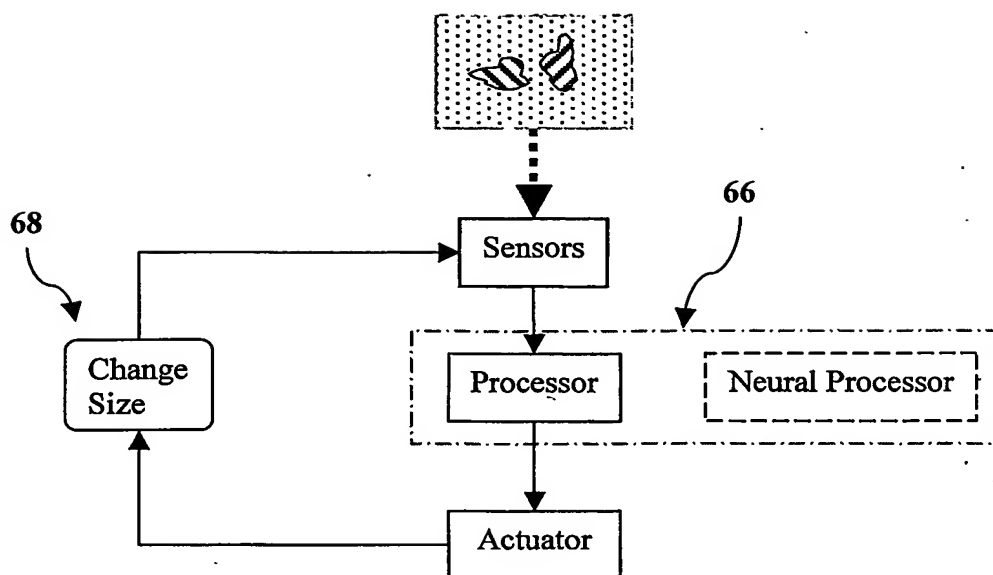


**Figure 7: Multiscale Agent cooperation**

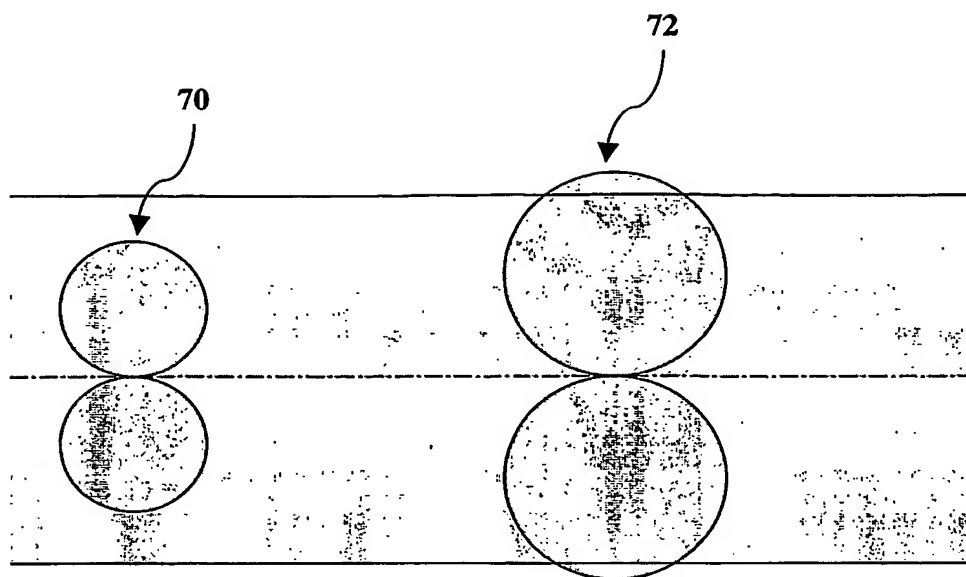


**Figure 8: Multiscale Sensors**

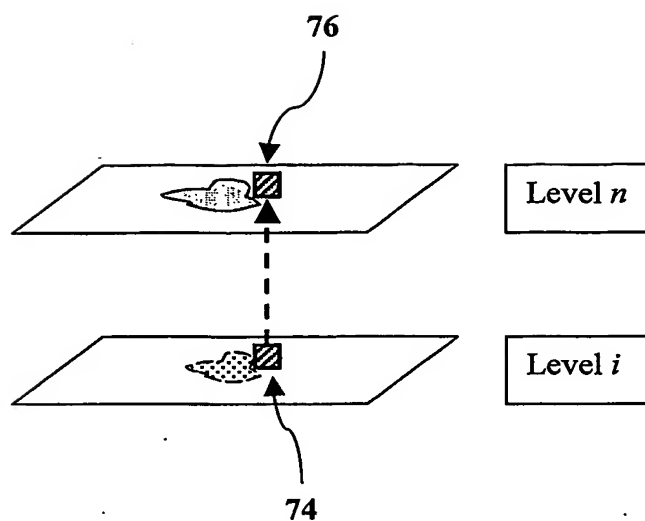




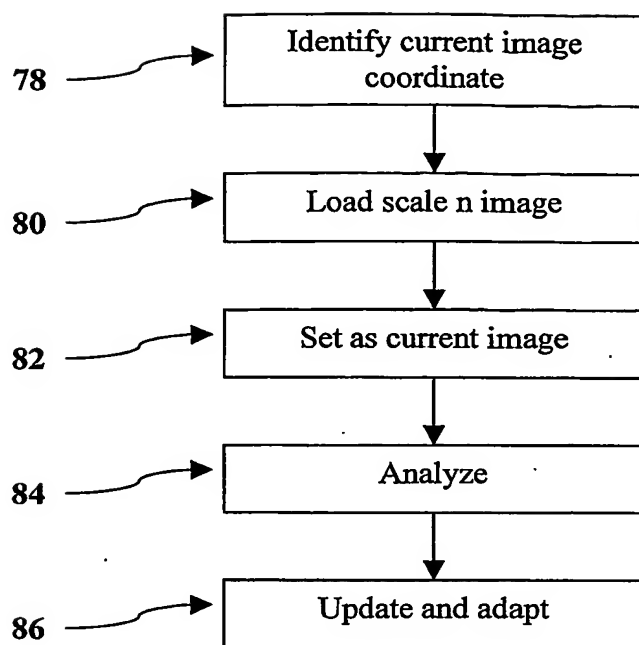
**Figure 9 a: Multiresolution Sensing Flow chart**



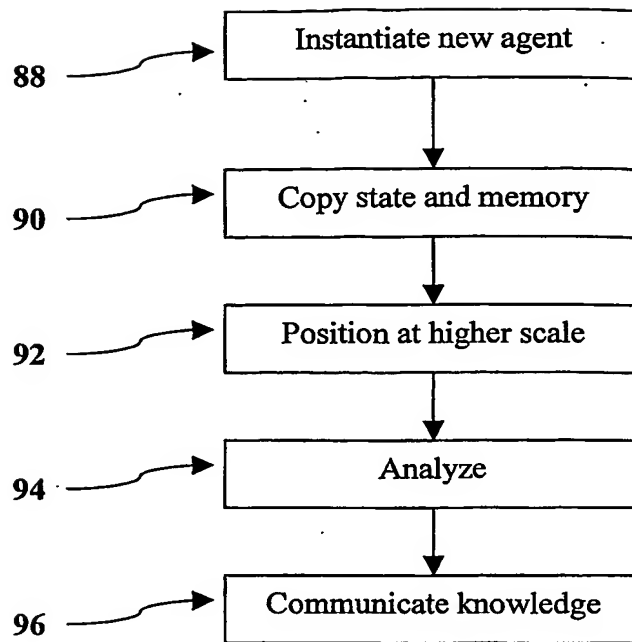
**Figure 9b: Multiresolution Sensing Illustration**



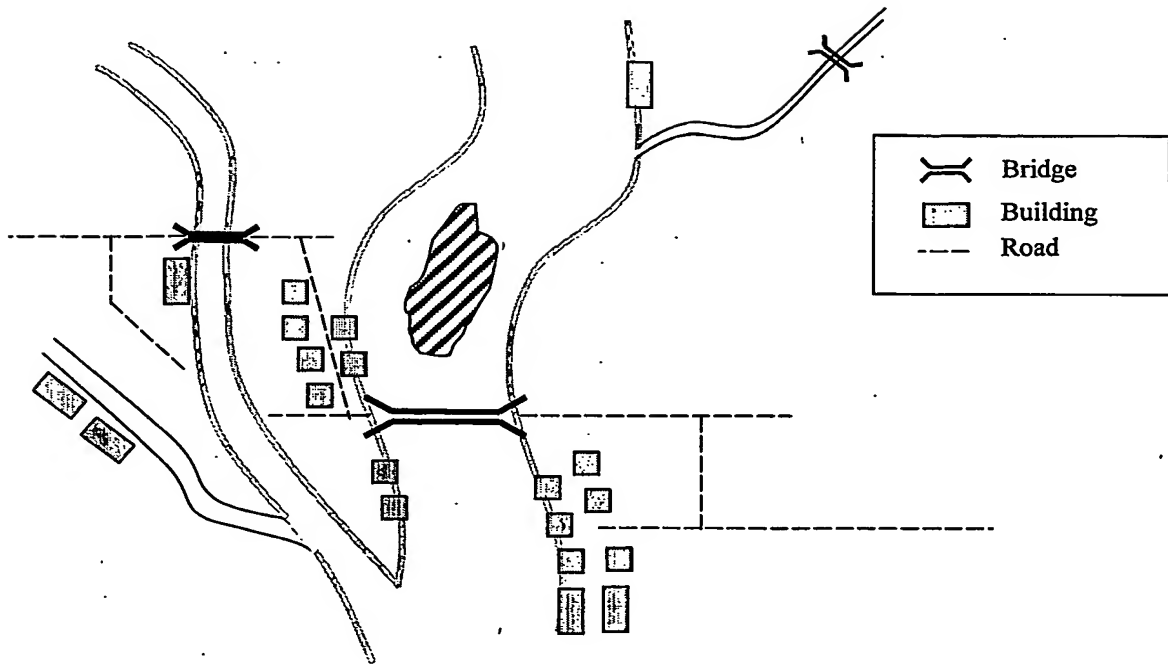
**Figure 10 a: Higher scale information gathering by single agent**



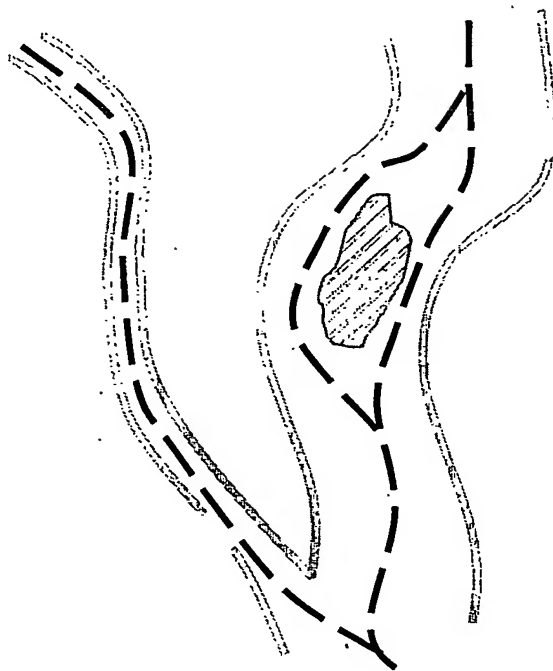
**Figure 10 b: Higher scale information gathering by single agent**



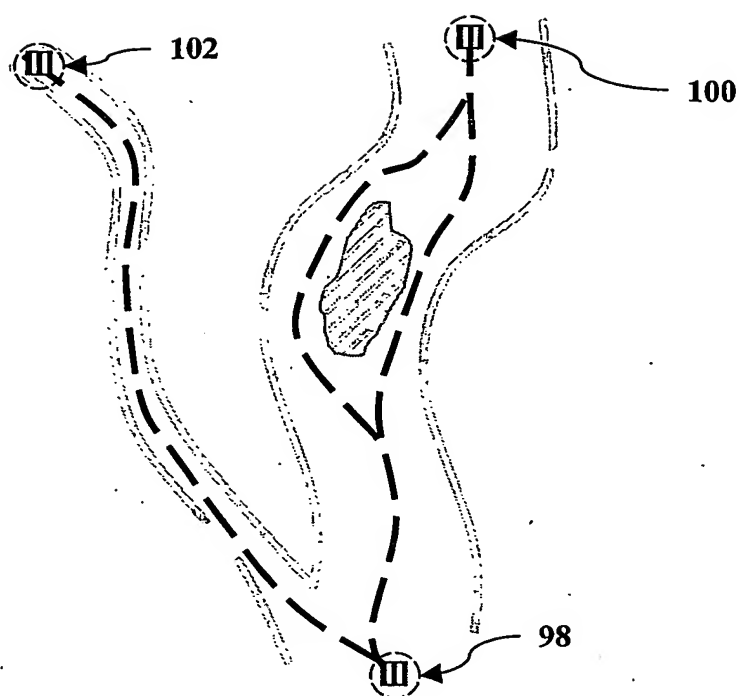
**Figure 10 c: Higher scale information gathering by cloned agent**



**Figure 11: Illustration of a satellite image landscape**



**Figure 12 a: Extraction of main water regions and ridges**



**Figure 12 b: Agents initialization**



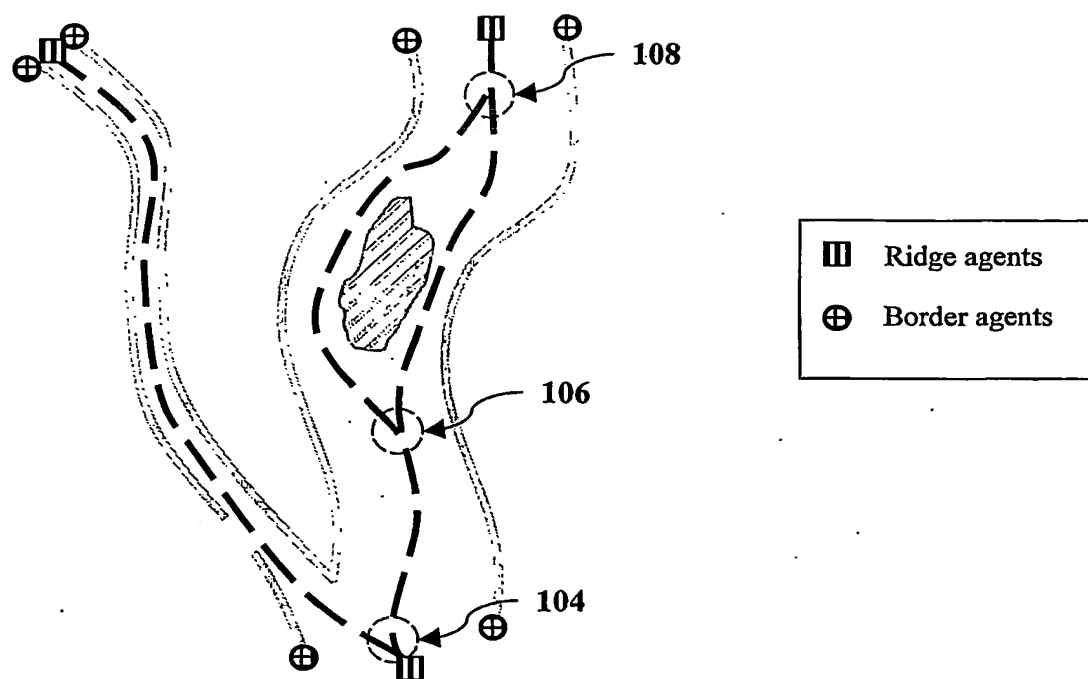
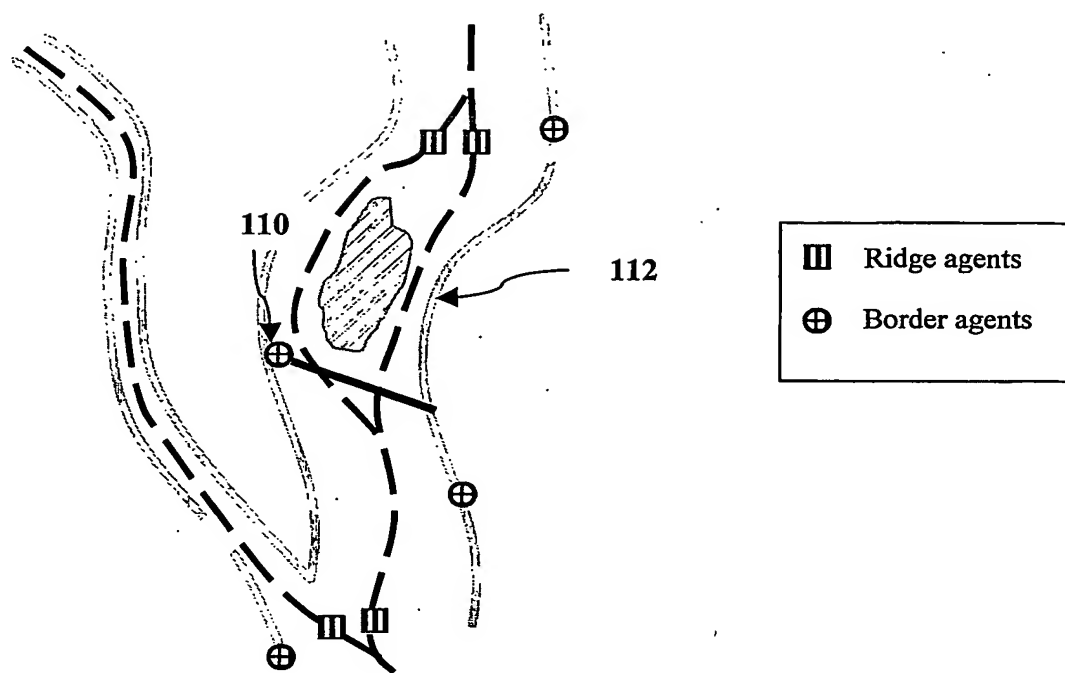
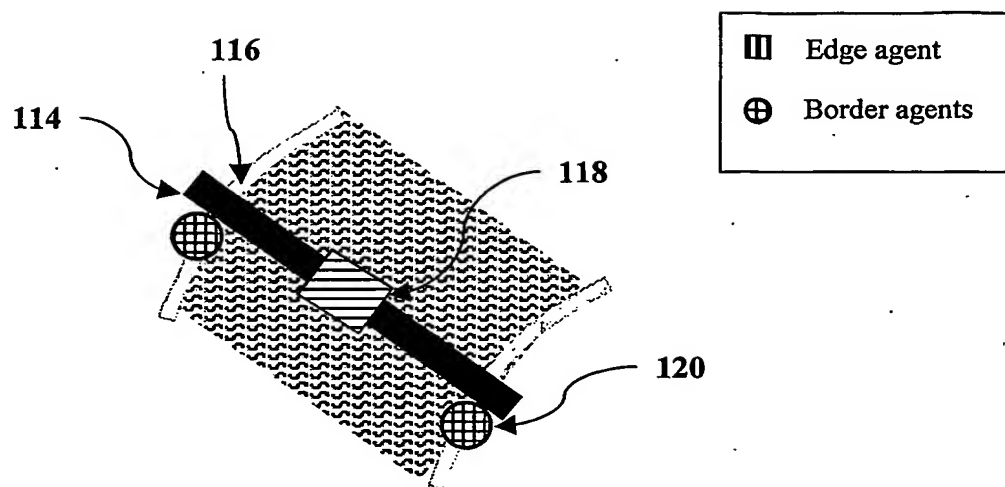


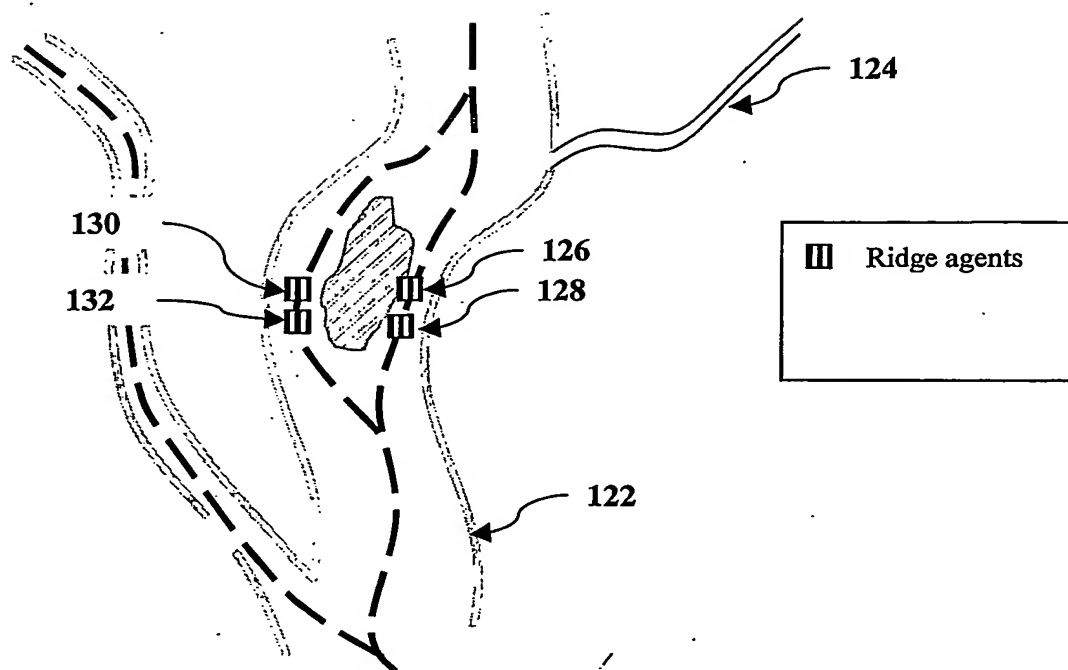
Figure 13: Border Agents init. and ridge agents path following



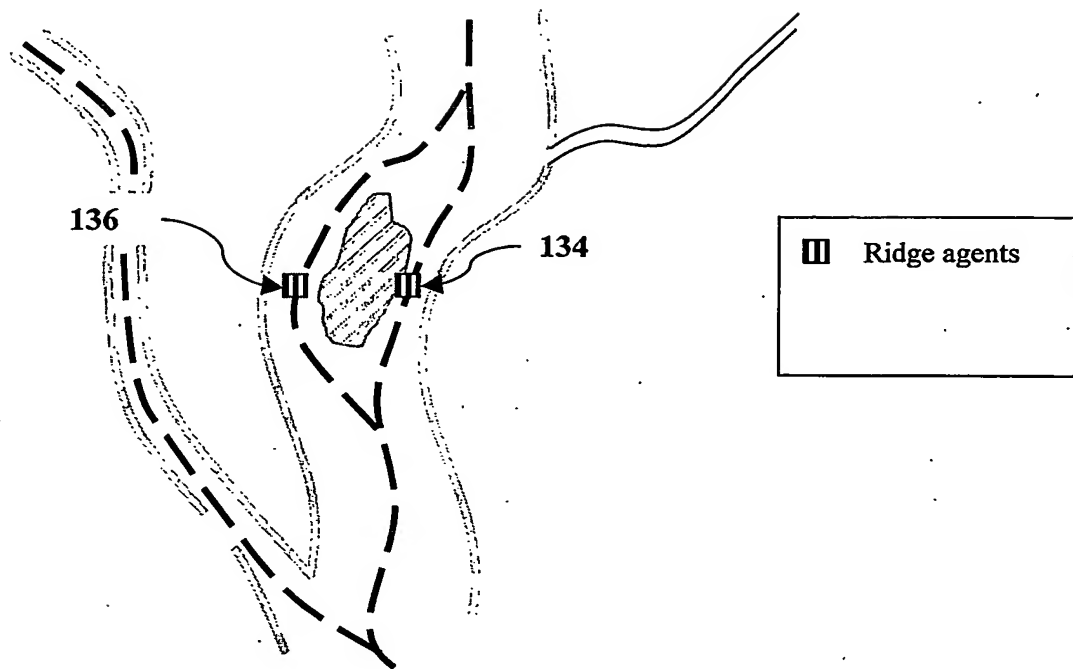
**Figure 14 a: Bridge detection**



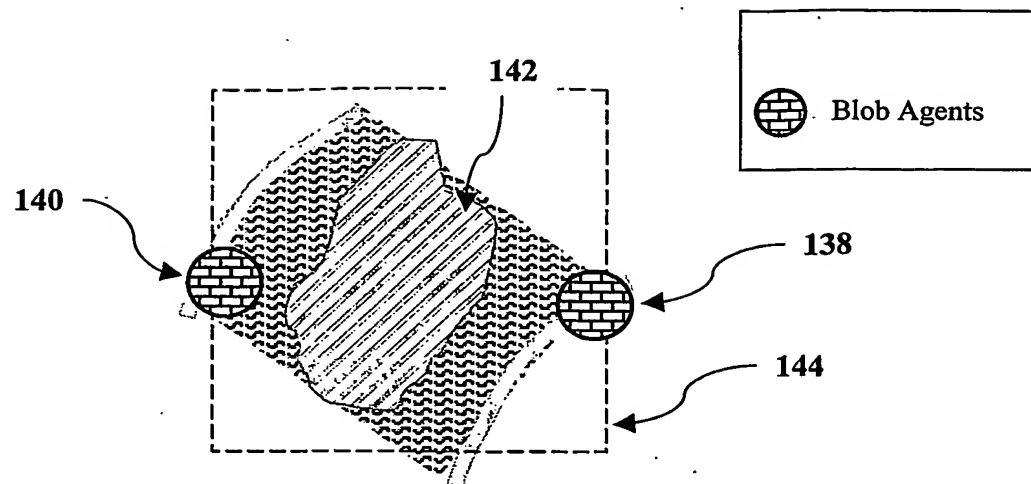
**Figure 14 b: Discontinuity in border**



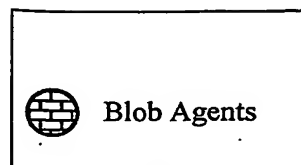
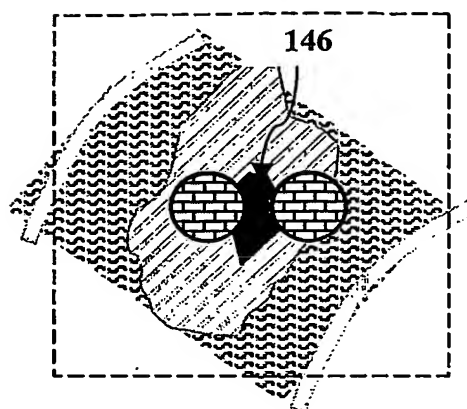
**Figure 15 a: Semantic Water course detection**



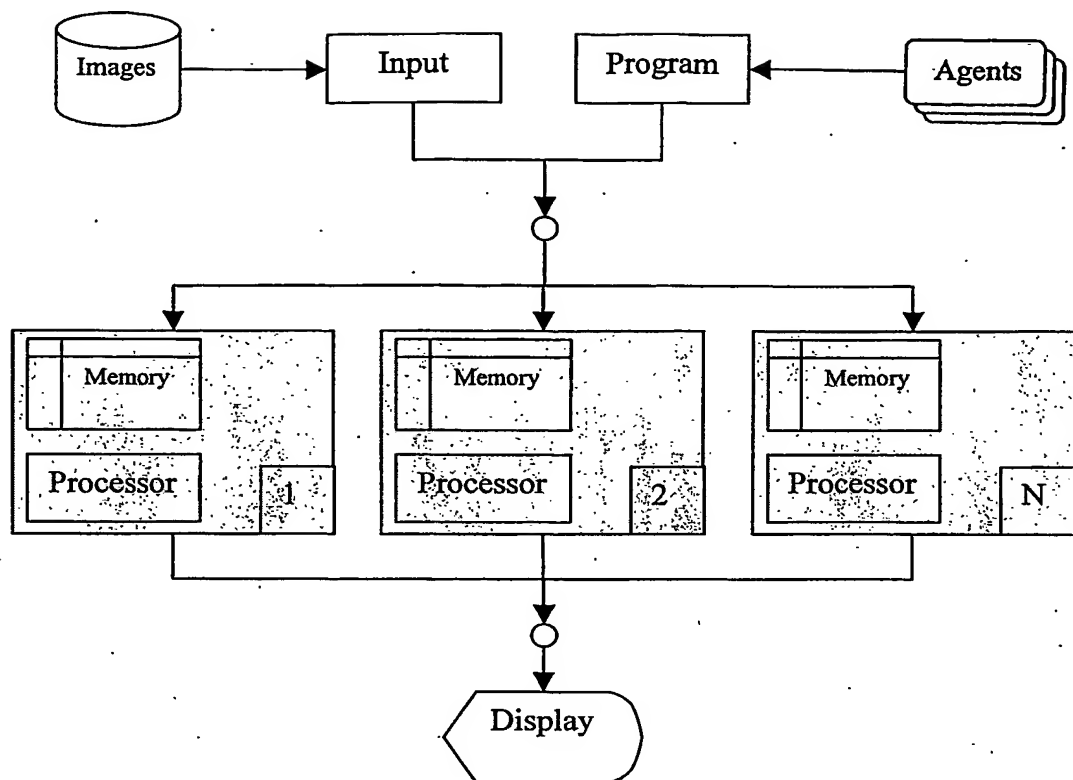
**Figure 15 b: Semantic Water course detection**



**Figure 16 a: Higher scale blob detection**



**Figure 16 b: Higher scale blob detection**



**Figure 17: Apparatus with multiple processing nodes**